THE RELATION OF GONORRHŒAL RHEUMATISM TO SEMINAL VESICULITIS, AND ITS CURE BY SEMINAL VESICULOTOMY.[1]

A REPORT OF FOUR CASES.

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GONORRHŒAL rheumatism has hitherto represented one of the most unwelcome complications, I think I am safe in stating, that the genito-urinary surgeon has had to encounter. In using the term unwelcome, I do not refer particularly to the element of danger, but more especially to those of rebelliousness and uncertainty. The complication has, as a rule, resolved itself when it got, as it were, good and ready. No drugs or therapeutic measures have had any markedly beneficial effect, and many are the surgeons who have in connection with these cases either lost standing by being foolish enough to definitely prognosticate the length of time the complication would in a given instance persist, or have lost patients through apparent failure of the varied measures adopted for the purpose of cure. Gonorrhœal rheumatism is a systemic infection, the source of which is genito-urinary. It apparently bears no connection at all to acute inflammatory or to muscular rheumatism. The systemic infection causing gonorrhœal rheumatism is generally considered to be one mixed in character. Just what rôle the gonococcus plays in this connection is still a subject open to discussion. Some are inclined to credit it with being the chief factor, and in substantiation of their contention point to the fact that that germ has been found in affected joints and bursæ; while others assert that the only rôle played by it is a somewhat minor one.

[1] Read before the Surgical Section of the New York Academy of Medicine, April 21, 1905.

These latter contend that the gonococcus, through the localized inflammatory reaction which arises from its presence in connection with the mucous membrane, allows other germs to enter the system, the result being the usual group of septic symptoms classed under the clinical heading, gonorrhœal rheumatism. I am personally inclined to assign myself to this latter group of thinkers, but have recently digressed somewhat even from them, for I now hold that gonorrhœal rheumatism so called can exist entirely independently of the gonococcus; in other words, I am now positive in my opinion that another agency can exist which can play the minor rôle assigned to the gonococcus of allowing other germs to enter the system from a genito-urinary source. In substantiation of this personal opinion, I have observed on a considerable number of occasions all the clinical symptoms of gonorrhœal rheumatism develop subsequent to surgical instrumentation or treatment which has awakened an acute inflammatory reaction in connection with old quiescent lesions of the seminal vesicles. I will, however, have to admit that in the cases where I have observed this resulting complication there has been an early history of gonorrhœa to perhaps account for the existing lesions in the seminal vesicles; still, the clinical and histological evidence has gone to prove that a complete elimination of the gonococcus had already and probably long before occurred.

A striking peculiarity of gonorrhœal rheumatism is the marked susceptibility to it shown by the individuals it does attack. In other words, if one develops gonorrhœal rheumatism in connection with his first attack of that disease, it is extremely likely that he will redevelop it not only with all subsequent similar infections, but also many times in connection with inflammatory exacerbations originating from gonorrhœal lesions. On this account it may be that some agency aside from the element of mixed infection must be present in order to account for the development of this complication. It is very unusual for gonorrhœal rheumatism to develop in the early stage of a fresh infection.

As it was but five months ago, namely, in December, 1904,

that the idea occurred to me to try to cure gonorrhœal rheumatism by the operative method I am now reporting, it is only since then that I have been actively investigating these cases from the stand-point of the male subject; and my special clinical study has been to try to determine whether the systemic infection in these cases seemed to enter from any special focus, or from the general mucous surface. I am as a result strongly of the opinion that the systemic infection in the male usually enters from a special focus, and that that special focus is represented by a seminal vesiculitis. In support of this assertion, I have investigated fifteen cases of gonorrhœal rheumatism in the male. Six of these cases are from my private practice and nine from my practice at the City and Post-Graduate Hospitals. In twelve of these the only existing genito-urinary lesion was in the seminal vesicles, namely, seminal vesiculitis. In one there was a marked seminal vesiculitis and a subsiding inflammation of the mucous urethral surface. In two, although the seminal vesicles were not free from some involvement, still, the urethral inflammation seemed to be the chief feature. To further prove my contention, I have been able to subject to my operation of seminal vesiculotomy four out of the twelve cases showing seminal vesiculitis to be the only existing genito-urinary lesion. By means of this surgical procedure, all systemic absorption from the seminal vesiculitis has been immediately checked and a resolution of the genital lesion has promptly followed. Almost immediately in all these cases the active symptoms of gonorrhœal rheumatism have wholly disappeared. Firm manipulation of the parts previously affected has been possible at the end of twenty-four to forty-eight hours without provoking other than normal sensations, and movements of the joints in bed has caused no pain. At the end of two weeks, when the patients have been allowed out of bed,—that being the usual period of rest demanded by the operation,—they have all been able to walk about, and to leave the hospital promptly, entirely free from their gonorrhœal rheumatism. As two of these cases had been bedridden for four months, and one of them for three months previous to opera-

tion, considerable atrophy had taken place in the muscular structures of their thighs and legs, and their joints, from long disuse, had become somewhat stiffened. It was consequently natural, when these individuals were put on their feet two weeks after operation and made to walk, that they should at first have found themselves weak and awkward, and that their ankles after they had been up some time would for the first few days have swelled somewhat. All of them were fearful, when they first began to walk, lest the symptoms just described due to non-use of their limbs were not indicative of a return of their gonorrhœal rheumatism. As each day they walked better and felt better, all complaint soon ceased. After discharging them from the hospital at the end of about three weeks subsequent to operation, I have had them report to the clinic sufficiently long to assure myself of their positive convalescence. I was sorry not to have been able to operate on a larger proportion of my cases; but as I had to explain to all of the earlier ones solicited that the method I proposed as a cure was in the nature of an original experiment, it was natural that several of them should have refused to submit, in spite of my assurance that I hoped and expected to cure them. Now, however, in consideration of the results accomplished, I do not feel that I have to emphasize the experimental feature of my method, and, consequently, it is probable in the future that a larger percentage of those suffering will choose a speedy relief through operation rather than a tedious one through expectant treatment. Aside, also, from the speedy cure, the operation insures there is another argument in its favor, and that is the decrease it affords in the danger of grafting on the system cardiac, joint, or other lesions the result of sepsis where through its agency systemic sepsis is promptly eliminated.

The clinical report of my cases is as follows:

CASE I.—A young man, twenty-three years of age, whom I found on my service of the City Hospital, when I began my annual visiting there in December last. Five months before, the patient had contracted gonorrhœa, and for the preceding four

months he had been so crippled by gonorrhœal rheumatism that he had been forced to remain in bed, being unable to walk. Both ankles and feet were much swollen and very tender to the touch. Both knees were also similarly involved, and there was sufficient fluid in both these joints to cause a distinct floating of the patellæ. The upper extremities were not markedly affected, though sharp pains were frequent in connection with movements of the shoulders and back. Even though the patient kept as quiet as possible in bed, his feet and legs caused him much suffering. As the result of a careful genito-urinary examination, I found that the only existing lesion was confined to the seminal vesicles. Both these organs were markedly indurated and tumefied. In fact the tumefaction was so extensive that it had invaded to a considerable extent the peripheral tissues. The patient was very anxious to get well, and, as he was thoroughly discouraged with the lack of progress he had been making, readily agreed to operation. I accordingly performed my usual operation of seminal vesiculotomy. By the retraction of the rectum, both seminal vesicles were exposed, and longitudinal incisions were made into each, opening their cavities thoroughly. After gentle curettage, both cavities were packed with sterile gauze, and drainage established in the usual manner. The day following the operation the patient reported himself as very comfortable, and free from pain even when he moved his knees and ankles. On my first visit to him, forty-eight hours after operation, I found I could manipulate his knees and ankles without causing him any pain. The fluid in his knees had disappeared and the swelling in his feet was much reduced. At the end of five days the swelling had disappeared from his feet, and he could then make all extreme movements possible while lying in bed, without causing any pain or even discomfort. At the end of a week the drainage from his seminal vesicles was removed, and the tract of the wound was allowed to close. At the end of two weeks I ordered him out of bed. Careful rectal examination then showed a rapid resolution to be taking place in connection with his seminal vesicles. About a week later he left the hospital. After leaving the hospital he reported once a week to me at my Post-Graduate Clinic for about a month. He was then in robust health, with the appetite of one convalescent from typhoid. On his last visit, I told him he need not report again if he continued well. I have not heard from him since.

CASE II.—A young man, twenty-five years old. He had contracted gonorrhœal rheumatism about three months previous to his coming to my clinic at the Post-Graduate Hospital early in January, 1905. The patient hobbled into the Clinic with great difficulty, owing to gonorrhœal rheumatism in both feet and ankles. He reported that he had been confined to bed for a month owing to the rheumatism. He stated that he did not feel at the time that his trouble was getting better. Examination showed much involvement of his feet and ankles. Genito-urinary examination showed a marked seminal vesiculitis in connection with both organs. Aside from this there was no other genito-urinary lesion. The lesion in character was much like that in Case I. The patient readily consented to operation, and on January 12 I performed seminal vesiculotomy in precisely the same manner as in the preceding instance. The beneficial after-results were of the same marked character as in Case I. Pain left the feet and ankles in thirty-six hours, and quickly afterwards all signs of rheumatism disappeared. Prompt resolution occurred in connection with the seminal vesiculitis. This patient was likewise watched in the clinic after his discharge from the hospital.

CASE III.—Man, twenty-six years old, City Hospital service, February, 1905. This patient on entering the hospital had gonorrhœal rheumatism in both feet and ankles, the parts being markedly swollen and very tender to the touch. The pain on attempting to walk was so great that rest in bed was imperative. About six months previously he had contracted gonorrhœa, apparently his second attack. Three months previously the rheumatic complication in the feet and ankles showed itself, and for a month it was not especially severe. For the last two months, however, it had been in its present state of intenseness, forcing the patient to take to his bed. Six weeks previously he had entered the hospital, but at that time, not being prepared to entertain the idea of operation as a cure for his trouble, he had left the institution. A subsequent six weeks of suffering had, however, forced him to change his mind, and now he re-entered the hospital ready to accept operation. His genito-urinary lesion was a seminal vesiculitis involving especially the lower halves of both organs with a dense circumscribed sclerosis. I performed seminal vesiculotomy, cutting freely through the entire length of the surrounding sclerous tissue, and fully exposing the sac cavities. At

the end of twenty-four hours the pain and tenderness to touch had disappeared from the affected parts, and forcible manipulations of the joints could be performed without discomfort to the patient. At the termination of two weeks, the patient left his bed and could walk without difficulty or discomfort. I practised him walking on his toes and raising himself from a squatting position, keeping his heels off the floor, and found he could perform these exercises without trouble or inconvenience. Rectal examination showed that a resolution had taken place in connection with the genital lesion.

CASE IV.—Man, twenty-seven years old, Post-Graduate Hospital service, March, 1905. The patient contracted his first gonorrhœa the latter part of October, 1904. He tried to rid himself of his disease by quick cure methods, and in the middle of November gonorrhœal rheumatism developed in both his knees, and soon after in his feet. Ever since that time he had been invalidated by the complication, being forced for the most part to remain in bed. The patient entered the medical side of the hospital, but on being told by the House staff that I had cured another similar case through operation, he begged to be allowed the benefit of like operative treatment, and was accordingly transferred to my service. As a result of examination I found his genito-urinary lesion located entirely in his right seminal vesicle. That organ was much thickened by inflammatory infiltration, and the surrounding tissues were invaded by hard œdema. I performed my operation, exposing and opening, however, only the right sac. The same prompt effect on the rheumatism was observed in this as in the preceding instances. At the end of twenty-four hours, the patient stated that the pain had disappeared from his knees and ankles. Forcible handling and manipulation of those parts also failed to provoke discomfort. Since the operation there has been no return of his rheumatic sensations. The patient is now ready to leave the hospital. Examination shows rapid resolution to be taking place in connection with his seminal vesiculitis.

The results in all these cases have been most striking, and sufficiently positive to demonstrate the correctness of the theory on which I based my operative procedure, as well as the value

of the operation itself in all cases of gonorrhœal rheumatism dependent on seminal vesiculitis. There is one point to be emphasized in this connection, and that is that after the wound has healed a urethral discharge is quite apt to appear. If such is the case, the discharge should be left absolutely alone, in which event it will disappear spontaneously in a few weeks. Should attempts be made to stop it by the use of urethral injections or irrigations, a recrudescence of the seminal vesiculitis would occur, and with it in all probability there would be a return of the rheumatic symptoms.

Although I have so far employed seminal vesiculotomy but four times for the specific purpose of curing gonorrhœal rheumatism, I have to date performed the operation itself forty-six times without a death. My first publication on the subject appeared in the *Journal of the American Medical Association*, May 4, 1901, entitled, "A New Operative Method to Expose the Seminal Vesicles and Prostate for Purposes of Extirpation and Drainage: A Preliminary Report." My second publication appeared in the *Medical Record*, New York, May 21, 1904, entitled, "Operative Surgery applied to the Seminal Vesicles: A Demonstration of Some New Principles." My third contribution, "Seminal Vesiculotomy, The Author's Operation," was published in the October, 1904, issue of the *Post-Graduate*. In my second article I tabulated my first twenty-one cases, assigning them pathologically to groups, and reciting briefly the associated clinical symptoms together with the results obtained. In the first article the operative method was described. The purpose of the third article was largely to enlighten the profession regarding the operation itself, and its scope. To accomplish this end, I answered in that article the following hypothetical questions:

"(1) How is it that the operation accomplishes a cure of seminal vesiculitis and its complicating lesions?

"(2) Does opening and draining the seminal vesicles leave the sexual function crippled?

"(3) What is the eventual sexual status of individuals who have undergone the operation?

"(4) What are the dangers connected with the operation?

"(5) Is it easy of accomplishment?"

I expect soon to publish another article similar to the second one, tabulating clinically my subsequent cases, and in that article reference also will be made to the later histories of such of the first twenty-one cases as have remained under my observation.

The fact that I have performed the operation twenty-five times in the rather brief interval since my second article reporting twenty-one cases, shows conclusively what I think of the procedure.

In the execution of seminal vesiculotomy, just as in prostatectomy, I depend on the sense of touch rather than on that of sight in the accomplishment of many of the details. Occasionally a subject has been encountered where, in the performance of the operation, a sufficient retraction of the structures constituting the tract of the dissection has occurred to allow the operator to see the exact spot where the incision to open the seminal vesicle was to be made, but in most instances the path of incision has had to be determined wholly by the sense of touch. Even in the few instances it has been possible to see clearly where the incision should be made, I have not felt willing to trust my sense of sight, but have made the incision only after the correctness of its location had been fully determined by the touch. I have no doubt but that by the aid of retractors and of strong or reflected light the entire seat of operation could be brought distinctly into view, and it is possible that surgeons who are guided by the eye rather than the touch in the performance of their work would elect so to do, should they try the operation. The chief argument against performing the operation under the guidance of the eye lies in the danger of injury to the rectal wall which the use of retractors would occasion, and which a greater degree of dissection would invite. That this danger is not theoretical is shown by the experience of those who remove prostatic hypertrophy perineally under the guidance of the eye, the method usually practised by the French school, rather than under the guidance

of the sense of touch. Young, a follower of that school, has had rectovesical fistula in 8 per cent. of his cases. Perineal prostatectomy accomplished under the guidance of the sense of touch, as Goodfellow, Syms, myself, and some others perform it, endangers the rectum but little, if at all. Seminal vesiculotomy is a much deeper operation than perineal prostatectomy, and consequently necessitates a surgical disturbance along a greater extent of rectal wall. The rectal wall lying over the seminal vesicles is thinner and not so well nourished as that over the prostate and nearer the anus, consequently the danger of injuring that structure ought to be great in the performance of seminal vesiculotomy, and I am sure it would be were any degree of instrumental pressure or traction on the gut wall made necessary in connection with that operation. I have so far injured the rectal wall but once, and that in an early case already reported. The great safeguard to the rectal wall in the performance of the operation lies in the long, deep, lateral rectal incisions, which in conjunction with the transverse connecting perineal cut allow the rectum to draw itself back an inch or more, thus not only taking all natural tension off its walls, but also decreasing to a like extent the depth of the perineal wound.

In my early case wherein I perforated the rectal wall, my operative technique was faulty in that the lateral incisions on either side of the rectum were made too short and not sufficiently extended in the direction of the great sacrosciatic notch, thus preventing the previously mentioned natural retraction of the rectum.

The diagnosis of seminal vesiculitis has in the first instance to be made by the sense of touch, the finger-tip being educated not only to differentiate disease of the seminal vesicle from that of the prostate or other part, but also to determine the grade, character, and intensity of the lesion existing. It is consequently natural in the performance of seminal vesiculotomy to depend on the finger-tip to guide the knife in making its incision into the sac cavity.

The chief obstacle to my mind against the operation of

seminal vesiculotomy becoming one of comparatively general frequency lies in the fact that few surgeons make a practice of rectal exploration sufficiently persistently and often to educate the finger enough to insure their willingness to follow its guidance in locating the incision into the seminal vesicle. When the finger has been so educated, the operation I have devised should present no special difficulty. It opens up to surgical attack a region hitherto neglected owing to supposed inaccessibility.

Aside from its use in curing gonorrhœal rheumatism, I am at present investigating the effect the operation has on certain other conditions, which I have ground to believe are dependent for their presence on the existence of seminal vesiculitis, but have as yet not accumulated the data desired previous to making these researches public.